

**Immunohistochemical evaluation of lesions in the gastrointestinal tract of buffalo
(*Bubalus bubalis*) calves orally exposed to *Pasteurella multocida* B:2**

ABSTRACT

The gastrointestinal lesions and bacterial distribution of buffalo calves were evaluated histologically using immunoperoxidase, following oral exposure to wild-type *Pasteurella multocida* B:2 at 10⁹cfu/mL in phosphate buffered saline. The lesions were basically of mild to severe mucohaemorrhagic abomasitis and enteritis. The lesions were confirmed to be associated with the inoculated *P. multocida* B:2, using the immunoperoxidase technique. *P. multocida* B:2 antigen was detected not only in the bacterial clusters in the gastric pits, intestinal epithelia and capillaries, Brünner's glands and Crypt of Lieberkühn but was also seen interacting with infiltrating neutrophils and macrophages intracellularly and on the surface of erythrocyte in congested vessels and haemorrhages. We observed higher localization and distribution of the immunoperoxidase reaction with increased severity of lesions along the gastrointestinal tract. This suggest intensity increases with increased amount of *P. multocida* B:2 or antigen in the tissue, which possibly leads to increase tissue damage.

Keyword: Buffalo calves; Gastrointestinal lesions; Immunoperoxidase; Oral infection; *Pasteurella multocida* B:2